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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,418

02/13/2006

Harumatsu Miura

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EXAMINER

MAI, NGOCLAN THI

ART UNIT

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1793

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,418	Applicant(s) MIURA ET AL.	
	Examiner NGOCLAN T. MAI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-50 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-19, drawn to super hard and tough austenite steel bulk material.

Group II, claim(s) 20-34, drawn to method of making.

Group III, claim(s) 35-50, drawn components.

2. The inventions listed as Groups I, II and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: claim 6 is either anticipated or obvious over Ishibashi et al. (U.S. Patent No. 6,767,416). Accordingly the special technical feature linking the inventions such as austenite steel bulk material comprising an aggregate of austenite nano-crystal grains containing a solid-solution type nitrogen in an amount, of 0.1 to 2.0% (by mass), wherein a metal carbonitride exists as a crystal grain growth inhibitor between or in said nano-crystal grains, or between and in said nano-crystal grains. See Figures 5 and 6 and [0025]-[0032].

3. Should applicant elected invention of group I, this application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of

Art Unit: 1793

invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

Ia. super hard and tough austenite steel bulk material, wherein metal oxide or semimetal oxide exists a crystal grain growth inhibitor.

Ib. super hard and tough austenite steel bulk material, wherein metal nitride or semimetal nitride exists a crystal grain growth inhibitor.

Ic. super hard and tough austenite steel bulk material, wherein metal carbide or semimetal carbide exists a crystal grain growth inhibitor.

Id. super hard and tough austenite steel bulk material, wherein metal silicide or semimetal silicide exists a crystal grain growth inhibitor

Ie. super hard and tough austenite steel bulk material, wherein metal boride or semimetal boride exists a crystal grain growth inhibitor

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after

Art Unit: 1793

the election, applicant must indicate which are readable upon the elected species. MPEP

§ 809.02(a).

4. The claims are deemed to correspond to the species listed above in the following manner:

- Ia. claim 1.
- Ib. claim 2.
- Ic. claim 3.
- Id. claim 4.
- Ie. claim 5.

The following claim(s) are generic: 6-19

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1

because, under PCT Rule 13.2, the species lack the same or corresponding special technical

features for the following reasons: Pursuant to PCT Rule 13.2 and PCT Administrative

Instructions, Annex B, part 1(f)(I)(B)(2), the species are not art recognized equivalents.

5. Should applicant elected invention of group II, this application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

- IIa. method wherein the applying is by mean of rolling
- IIb. method wherein the applying is by mean of spark plasma sintering,
- IIc. method wherein the applying is by mean of extrusion.
- IId. method wherein the applying is by mean of hot isostatic pressing.
- IIe. method wherein the applying is by mean of cold isostatic pressing.
- IIf. method wherein the applying is by mean of cold pressing.

Art Unit: 1793

Ilg. method wherein the applying is by mean of hot pressing.

Ilh. method wherein the applying is by mean of forging.

Ili. method wherein the applying is by mean of swaging.

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

6. The claims are deemed to correspond to the species listed above in the following manner:

Ila. claims 20 and 21.

Ilb. claim 20-23.

Ilc. claim 20-21.

Ild. claim 20-21.

Ile. claim 20.

Ilf. claim 20.

Ilg. claim 20-21.

Ilh. claims 20-21.

Iii. claims 20-21.

The following claim(s) are generic: 20, 24-34

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: Pursuant to PCT Rule 13.2 and PCT Administrative Instructions, Annex B, part 1(f)(I)(B)(2), the species are not art recognized equivalents.

7. Should applicant elected invention of group III, this application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

Iia. high strength bolt, nut or other mechanical clamp material

Iib. bullet proof material.

IIic. die, drill, spring, gear, bearing or the other mechanical tool or part.

IIId. an artificial bone, joint, dental root or other medical or dental artificial material.

IIIE. an injection needle, surgical knife, catheter or other medical mechanical tool.

IIIf. die used in many press operation.

IIIg. a hydrogen storage tank.

IIIh. a kitchen knife, razor, scissors or other sharp-edged tool.

IIIi. a turbine fin, turbine blade or other turbine member.

IIIj. a defensive weapon.

Art Unit: 1793

IIIk. a skating, sledging or other sporting member.

IIIl. a pipe, tank, valve or other chemical plant material.

III m. an atomic powder generator material.

III n. a rocket, jet or other flying object.

III o. a lightweight housing material for personal computer, attaché case or the like.

III p. a member for moving equipment.

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

8. The claims are deemed to correspond to the species listed above in the following manner:

IIIa. claim 35.

IIIb. claim 36.

IIIc. claim 37.

IIId. claim 38.

IIIe. claim 39.

III f. claim 40.

III g. claim 41.

III h. claim 42.

III i. claim 43.

III j. claims 44.

III k. claim 45

III l. claim 46

III m. claim 47.

III n. claim 48.

III o. claim 49.

III p. claim 50.

The following claim(s) are generic: none

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: Pursuant to PCT Rule 13.2 and PCT Administrative Instructions, Annex B, part 1(f)(I)(B)(2), the species are not art recognized equivalents.

9. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

10. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

11. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained.

Withdrawn process claims that are not commensurate in scope with an allowable product claim

Art Unit: 1793

will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGOCLAN T. MAI whose telephone number is (571)272-1246. The examiner can normally be reached on 8:30-5:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit
1793

Application/Control Number: 10/529,418
Art Unit: 1793

Page 11

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